

REMARKS

Claims 1, 4-8, 23 and 25-44 are pending in this application. By this Amendment, claims 1, 4, 6, 7, 23 and 25-27 are amended, new claims 31-44 are added and claims 2-3, 9-22 and 24 are canceled without prejudice or disclaimer. Various amendments are made to the claims for clarity and are unrelated to issues of patentability.

The Office Action rejects claims 1-3 and 8 under 35 U.S.C. §102(b) over JP 03-212913 to Handa. The Office Action also rejects claims 4-7 and 30 under 35 U.S.C. §103(a) over Handa in view of U.S. Patent 5,138,393 to Okamura et al. (hereafter Okamura). The rejections are respectfully traversed.

Independent claim 1 recites a plurality of metal lines and a magnetic material provided about the plurality of metal lines, the magnetic material including a structure to reduce Eddy currents flowing in the magnetic material, the structure comprising a plurality of slots provided in the magnetic material. Independent claim 1 also recites the slots extending substantially perpendicular to the plurality of metal lines.

Handa does not teach or suggest all these features of independent claim 1. More specifically, the Office Action alleges that Handa discloses a plurality of metal lines (element 13), magnetic material (element 10) provided around the plurality of lines and the magnetic material including a structure to reduce Eddy currents flowing in the magnetic material of the structure includes a plurality of slots (element 14) that extend substantially perpendicular to the plurality of metal lines. However, applicants respectfully submit that Handa does not relate to the claimed transformer and/or associated slots. Rather, Handa's inductance component includes a printed

coil 12 and a core 10. The inductance component further includes a gap 14 provided between the I-type core 11 and the magnetic leg 15 outside the core 10. As is clearly shown in Figure 1 and 2 of the Japanese reference, the gap 14 is provided in a similar direction as the conductor 13, which the Office Action alleges corresponds to the claimed metal lines. Handa clearly does not relate to a transformer including a structure to reduce Eddy currents where the structure includes a plurality of slots extending substantially perpendicular to the metal lines. Applicants respectfully submit that Handa does not teach or suggest the claimed features of independent claim 1. Furthermore, Handa has no suggestion for changing the structure as it merely relates to an inductance component. Accordingly, independent claim 1 defines patentable subject matter.

Independent claim 23 includes almost exactly the same subject matter as independent claim 1 and therefore should be considered during the prosecution of this application. That is, the subject matter of independent claim 23 clearly is similar subject matter as that being examined in independent claim 1. Applicants respectfully submit that independent claim 23 defines patentable subject matter for at least similar reasons as independent claim 1.

Independent claim 31 recites a plurality of metal lines, and a magnetic material provided about the plurality of metal lines, the magnetic material including a structure to reduce Eddy currents flowing in the magnetic material, the structure including a laminated magnetic structure having layers of magnetic material and insulation material. In addressing features relating to “a structure to reduce Eddy currents flowing in a magnetic material” and that the structure is “a laminated magnetic structure that includes layers of magnetic material and insulation material,” the Office Action references Okamura. That is, the Office Action asserts that Okamura

discloses a magnetic core comprising a laminated magnetic structure. However, there is no suggestion for providing Okamura's structure about Handa's inductance component. That is, the Office Action broadly applies an alleged laminated structure of Okamura about the core of Handa without any suggestion for how such structure would be applied. For example, there is no suggestion of how magnetic flow and/or the gaps may be affected by the alleged laminated structure of Okamura. Further, there is no discussion regarding Okamura's alleged laminated structure to reduce Eddy currents flowing in the magnetic material. Clearly, this combination of Handa and Okamura is based on impermissible hindsight by using applicants' own specification as a roadmap in which to modify both references. Applicants respectfully submit that Handa's structure and operation must be taken into consideration (i.e., the magnetic properties and structures) when making such a modification. In summary, the alleged combination is improper and does not suggest the claimed features. Accordingly, independent claim 31 defines patentable subject matter.

Independent claim 38 also defines patentable subject matter for at least similar reasons as independent claim 31. That is, the combination of Handa and Okamura is improper and does not teach or suggest all the features of independent claim 38. Thus, independent claim 38 defines patentable subject matter.

Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, each of the dependent claims recite features that further and independently distinguish over the applied references.

For example, dependent claims 30 and 37 recite the plurality of metal lines and the magnetic material are provided on a die. See also dependent claims 29 and 41. In addressing claim 30, the Office Action asserts that it would have been an obvious design consideration to provide a transformer on a die for the purpose of providing power. However, Handa's inductor component clearly is not a component made for a die. That is, the present application clearly describes embodiments of a transformer that is small enough to be integrated on a die and have an operating frequency that is sufficiently high. Handa's inductance component may not be simply provided on a die as appears to be alleged in the Office Action. Furthermore, it is not an obvious design consideration as Handa's inductance component clearly could not be provided on a die. Thus, dependent claim 30 (and similarly dependent claims 29, 37 and 41) defines patentable subject matter at least for this reason.

Still further, dependent claim 4 (and similarly dependent claim 26) recites that the structure includes a laminated magnetic structure that includes layers of magnetic material and insulation material. For similar reasons as set forth above with respect to claim 31, applicants submit that the combination of Handa and Okamura is improper and does not teach or suggest all the features of dependent claim 4 (and similarly dependent claim 26). Still further, dependent claim 36 recites that the slots extend substantially perpendicular to the plurality of metal lines. See also dependent claim 42. For at least the reasons set forth above with respect to independent claim 1, Handa and Okamura do not teach or suggest all the features of dependent claim 36 (and similarly dependent claim 42). Thus, dependent claims 36 and 42 define patentable subject matter at least for this additional reason.

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CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1, 4-8, 23 and 25-44 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **David C. Oren**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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